International Conference on
ENVIRONMENTAL HEALTH & SAFETY
October 24-25, 2016 | Valencia, Spain

Scientific Tracks & Abstracts

Day 1

Track 1, 2, 3, 4 & 5

Environmental Health Hazards | Engineering | Environmental geology and Soil Science | Hygiene | Occupational Health

Session Chair
Vítor Manteigas
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Session Introduction

Title: Fifteen years of experience in education for sustainable development: the reality in higher education around the world
Vítor Manteigas | Lisbon School of Health Technology | Portugal

Title: Photo thermal desorption (PTD) of Bucky papers (BPs) for volatile organic compound (VOC) sampling and analysis
Claudiu T. Lungu | University of Alabama at Birmingham | USA

Title: Investigation of combined adsorption/ozonation processes for removal of benzothiazoles
Ján Derco | Slovak University of Technology | Slovak Republic

Title: The Impacts of Energy Management and Environmental Health on the Indexes of Societies' Progress and Sustainable Development
Ali Emami Meibodi | University of Allameh Tabataba'i | IRAN

Title: Modelling life cycle sustainability in buildings using system thinking
Mohamed Marzouk | Cairo University | Egypt

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FIFTEEN YEARS OF EXPERIENCE IN EDUCATION FOR SUSTAINABLE DEVELOPMENT: THE REALITY IN HIGHER EDUCATION AROUND THE WORLD

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In recent years, the Education for Sustainable Development (ESD) has been a part, all over the world, of the discourse associated to education. The UN, by designating the period 2005-2014 as the Decade of ESD, sought to bring to the fore the need for policy makers and education professionals find ways in which the ESD could become an integral part of formal and non-formal education. The objective of this work involves (i) identify the different programs that educational institutions have used to work the issues of ESD and (ii) know and state the scientific nature of work that has been developed, associated with ESD, in the educational institutions, focusing on higher education, for the past 15 years. In order to ensure the achievement of the objectives set, was analyzed the final report of the Decade of ESD, with further research of scientific papers. Of the programs listed in the final report, Eco-Schools is recognized by The United Nations Educational, Scientific and Cultural Organization (UNESCO) as the largest international network of teachers and students from around the world. The designations associated to educational institutions, which have been developing work within ESD programs, has not been consensual. This may cause confusion in what concerns the existing programs. Regarding the Eco-Schools the used designations are different ("Eco-Schools" and "Green-Schools" for basic and secondary education and "Eco-Universities", "Eco-Campus" and "Green Campus" for higher education). Most of the work of the schools gives emphasis to structural issues of schools (school building), energy issues and sustainability.

Biography

Vítor Manteigas is Environmental Health Specialist by Polytechnic Institute of Lisbon, he has a "public recognition, innovation and development" by Lisbon School of Health Technology an (ESTeSL) for his work as coordinator of Eco-Universities Programme Victor has done his Master in Public Health from the NOVA University of Lisbon and PhD candidate in Climate Change and Sustainable Development Policies, a joint initiative between the University of Lisbon and NOVA University of Lisbon.

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PHOTOTHERMAL DESORPTION (PTD) OF BUCKYPAPERS (BPS) FOR VOLATILE ORGANIC COMPOUND (VOC) SAMPLING AND ANALYSIS

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This study was aimed to find an efficient sorbent for use with our novel desorption technique, photothermal desorption (PTD) which thermally desorbs an analyte by applying a pulse of light. Two types of single-walled carbon nanotubes (SWNTs), arc discharge (AD) and high-pressure carbon monoxide (HiPco), were used to fabricate buckypapers (BPs) and they were examined as a potential sorbent for PTD. Upon fabrication (AD BP and HiPco BP), heat treatment was administered to improve adsorption properties. Adsorption properties, including Brunauer-Emmett-Teller (BET) surface area and pore size, of the heat-treated BPs were characterized and then tested for PTD. Toluene was used as a representative volatile organic compound (VOC) and a photographic grade xenon flash lamp was used for PTD. As a result, both types of BPs showed a large surface area (933 – 970 m^2/g) and small mean pore diameter (5.6 – 5.9 nm). The difference in the recovery rate between AD and HiPco BPs was statistically significant ($p < .0007$ – .0256) AD BP having the higher recovery rate (0.016 – 0.431 %) at all energy levels examined (1.84 – 7.37 J), indicating that AD BP is a viable sorbent for VOC sampling and analysis using PTD.

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INVESTIGATION OF COMBINED ADSORPTION/OZONATION PROCESSES FOR REMOVAL OF BENZOTHIAZOLES

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Adoption of the Water Framework Directive (Directive 2000/60/EC) provides a policy tool enabling sustainable protection of water resources. The main aim of our research acitivities is to find the most appropriate technique for the removal of priority and relevant substances from water using ozone based reactions, designing controlled oxidation processes and eventually also an ozonation reactor. The aim of this presentation is to summarize the main results of ozone application to degrade BT and 2-MBT from model wastewater with selected ozone based processes (O3, O3/ZEO, O3/GAC). Benzothiazole (BT) and its derivates are widely used, mainly as herbicides and fungicides, anti-fungal drugs, corrosion inhibitors in cooling water, slimicides in the paper and pulp industry and largely as vulcanization accelerators in rubber production. They are toxic and poorly biodegradable. Benzothiazoles (BTs) have been detected in the environment for instance in wastewaters, soils, estuarine sediments, and superficial waters. Our results of ozone utilization for wastewater pretreatment indicates that 99% of BT were removed after 80 minutes of ozonation. Efficiency of BT mineralization was increased three times using the O3/GAC process compared with ozonation only. The 2-MBT removal rate was three times higher than that of BT wastewater. Efficiency of BT removal was lower by 31% in wastewater containing 2-MBT. The results of ozonation of wastewater containing BT and 2-MBT simulating real industrial wastewater prior to the biological treatment indicate the feasibility of this procedure. This work was supported by the Slovak Research and Development Agency under the contract No. APVV-0656-12. The authors would like to thank also for the support from the VEGA Grant 1/0859/14.

Biography

Ján Derco, D.Sc. has Graduated from the Faculty of Chemical and Food Technology, Slovak Technical University (SUT) as M.Sc. in Chemical Engineering. Then he started working at the Department of Environmental Engineering at the same faculty where he has continued his research. Later he obtained his PhD. and D.Sc. graduations from the same University. Presently he is working as Professor at the Institute of Chemical and Environmental Engineering SUT.

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Surveillance and Prevention Culicidae vectors - the Portuguese case

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Introduction: Dengue and Zika are considered a disease of the XXI re-emerging century are a major public health problems in the world, not only because it affects thousands of people, since the mosquito Aedes aegypti tends to reproduce in homes but also because it is considered one of the most important viral diseases transmitted by animals. In health surveillance Environmental Health Officers has is mission to analyze, prevent and correct the potential health risks. It is in this sense that environmental health is as important to end this disease, and in the meantime to prevent it does not affect human health.

Methodology: The study is based on data from DGS program and INSA, REVIVE, which verify the presence of mosquitoes and larvae that can cause contamination and diseases originating from mosquitoes, the analysis of these data and the other allows us to see the need for prophylactic care to have in our country, especially in Madeira, which, for its location and climate can foster the emergence of these.

Results: Samples and data collected by the REVIVE program did not detect the presence of the virus mosquitoes in continental Portugal, however climate change that Portugal crosses can cause the onset of mosquito vectors of carriers, so you want to public education for preventive measures can combat the proliferation of mosquitoes carriers.

Conclusion: Although there are no mosquitoes, educate the public for mosquito prevention measures is the most important think to prevent apperance of this vectores. Thus, this study provides a number of solutions to minimize the proliferation of mosquito vectors.

Biography

Susana Paixão is a Environmental Health Specialist by Coimbra Health School (ESTeSC), has a honors degree in Environmental Health, a Master in Environmental Education and is a PHd candidate in Physical Geography. She holds a certificate of competence to perform the duties of Health and Safety at work Officer, she is a certified trainer and a accredited trainer of IGC Nebosh.

She worked as Environmental Health Officer at the Environment Ministery - Central Region Department and at the Health Pombal Local Authorities. Since 1999 she is professor in the Department of Environmental Health at ESTeSC. From June 2011 until May 2015 she was the Head of Environmental Health Department. Since june 2015 is the Coordinator for International Relations of Environmental Health Department at ESTeSC.

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THE IMPACTS OF ENERGY MANAGEMENT AND ENVIRONMENTAL HEALTH ON THE INDEXES OF SOCIETIES' PROGRESS AND SUSTAINABLE DEVELOPMENT

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For the most of the twentieth century, growing reliance on fossil fuels was almost universally celebrated as a good, a symbol of society progress. However, nowadays, with the rise of the environmental concerns, efforts are mounting around the world to curtail and manage the consumption of all fossil fuels, due to different pollutions such as air, land, water, noise and the climate changes. Following two important meetings were held in 1972 and 1992 that deemed as milestones in the environmental context, society's progress measurement indexes have changed. These indicators have been raised since 1992, after holding the earth summit in Rio, Brazil. It is necessary to mention, that during 1920 to 1960, merely, the economic indicators were used for measuring and comparing the progress of different countries. During the 1960 to 1992, social indexes, such as, Gross National Happiness (GNH), Index of Social Health (ISH) are considered as well. After 1992, in the Global stage economic, social and environmental indexes are considered altogether for comparing societies' progress. For instance, since 1992, environmental outcomes of manufacturing enterprises have been under considerations. So, words such as environmental efficiency and green productivity are raised. In this paper, the major society progress indexes, such as sustainable development, environmental efficiency, green productivity, Environmental Impact Assessment (EIA), Index of Sustainable Economic Welfare (ISEW) are introduced, reviewed and analysed. The findings of this paper remind us; it must bet widen the understanding of the success of societies beyond economic and social indicators. Moreover, the environmental indicators are also important. The aim of this paper is also to analyse, the environmental policies (international, regional co-operation and national policies) in relation to energy management and Environmental health.Given our findings regarding the importance of energy management and environmental health, merely, through with, Good Gove rnance, to improve the Indexes of Societies' Progress and Sustainable Development.

Biography

Ali Emami Meibodi has completed his PhD from Departmant of Economics, University of Surrey, UK, in 1998. At present, he is associate professor of Energy Economics at Allameh Tabataba'i University, Tehran Iran. He has published two books and more than 36 papers (some of them in the reputed English Journals) in the area of Energy and Environment subjects.

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MODELING LIFE CYCLE SUSTAINABILITY IN BUILDINGS USING SYSTEM THINKING

Mohamed Marzouk[a] and **Mostafa El-hawary**[a]
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The worldwide interest for a formal tool to efficiently evaluate sustainability of buildings is increasing. Many interventions have been documented for using holistic concepts by introducing rating systems such as LEED of the United States, BREEAM of the United Kingdom, Pearl of the United Arab Emirates, GPRS of Egypt. All rating systems efficiently evaluated environmental impact and resources use for an instance of the building in its life cycle. This paper investigates the use of system dynamics to evaluate building life cycle sustainability though activities interaction behavior. In other words, a way for comprehending impact and effect of suitability related activities over the whole building life cycle or period of time. A generic framework was developed with an initial task of selecting key parameters through benchmarking of worldwide rating systems. The output from the benchmarking was analysed to generate correlation ideas in order to identify the system thinking relationships.

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Workshop

Day 1




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Kathy Norris

Emory Healthcare, USA

EXPEDITING RETURN TO WORK FULL DUTY WITH ONSITE MEDICAL MANAGEMENT

Emory Healthcare with Emory University in Atlanta, Georgia employs 39,075 employees. Contract onsite physical therapy and ergonomic services were added in 2001. Employees with work related musculoskeletal injures only required five onsite physical therapy visits versus the national average of fourteen visits. The cost savings of physical therapy and employee labor costs were $887,574 in 2006. In 2008, Emory's Occupational Injury Management Department was developed and physical therapists specializing in ergonomics were hired full time. The Emory employee received physical therapy, body mechanics instruction and an ergonomic evaluation as needed. Physical therapy statistics of discharged patients were recorded for three years to evaluate the discharge work status, physical therapy visits, the departments with injuries, and types of injuries. The goal was to provide good evidence based justification for onsite medical management with physical therapy and ergonomic services. Over 300 Emory employees were discharged annually from onsite physical therapy. The statistics revealed 90% to 93% of the employees returned to work full duty. With close medical management, only 35% of the employees required outside physician referral. The Nursing, Facilities Management, and Food and Nutrition Departments had the highest injuries. Injury prevention programs were designed based on the department ergonomic evaluations. A Safe Patient Handling Program was initiated in 2006. In 2014, there was a 12.5% cumulative reduction in lifting injuries. The average cost per WC case reduced by $2100 in ten years. Emory's comprehensive approach expedites the successful return to full duty work and reduces the cost of work related injuries.

Biography

Kathy Norris is the Emory Occupational Injury Management Physical Therapy Manager. She provides onsite physical therapy for Emory Healthcare and Emory University work related injuries, and ergonomic analysis for work related and non-work related injuries. She develops department specific injury prevention programs. She is a Certified Ergonomic Analysis Specialist with 28 years experience in industrial medicine. She is a Maitland-Australian Certified Orthopaedic Manual Therapist. She received a BS in Health Science from the University of Kentucky.

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Track 6, 7, 8, 9 & 10

Environmental Health Hazards | Engineering | Environmental geology and Soil Science | Hygiene | Occupational Health

Session Chair
Tsunehisa Makino
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Session Introduction

Title: **Stand up to work: improving health through the workplace environment**

Elizabeth Garland | Icahn School of Medicine | USA

Title: **Molecular high-resolution monitoring of Listeria monocytogenes on food products and food-associated environments**

Olivier Jousson | University of Trento| Italy

Title: **Measurements of octanol–air partition coefficients, vapor pressures and vaporization enthalpies of the (E) and (Z) isomers of the 2-ethylhexyl 4-methoxycinnamate as parameters of environmental impact assessment.**

Malisa S. Chiappero | Universidad Nacional de Mar del Plate | Argentina

Title: **The prevalence of hypertension among Kazak individuals of diverse occupational backgrounds in Xinxiang, china**

Jingmei Jiang | Chinese Academy of Medical Sciences & School of Basic Medicine | China

Title: **Monitoring and modelling of the occupational health and safety measures in two environmental research laboratories**

Gokce Guney | Dokuz Eylul University Engineering | Turkey

Title: **Toxicological and biochemical mixture effects of an herbicide and a metal on marine primary producers and primary consumers**

Valentina Filimonova | University of Aveiro | Portugal

Title: ***In vitro* assessment of arsenic and gut micro biome interplay**

Marta Calatayud Arroyo | Center for Microbial Ecology and Technology | Belgium

Title: **Enhancement of oxygen functional groups on olive stones activated carbon surface to improve heavy metal removal from single and binary aqueous systems.**

Thouraya Bohli | University of Gabès | Tunisia

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STAND UP TO WORK: IMPROVING HEALTH THROUGH THE WORKPLACE ENVIRONMENT

Elizabeth Garland[a], **John Doucette**[a], **Abbie Claflin**[b], **Krishna Baumet**[a] and **Mary Foley**[a]
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The American workforce has become sedentary; a behavior associated with poor health outcomes; chronic diseases, premature mortality, fatigue, and obesity. Changing the built environment is a strategy that can provide opportunities to promote physical, mental health and overall wellbeing. Ergonomic changes in an office environment can address excessive sitting; factors influencing mental health include indoor environmental conditions, the social climate of the workplace, and job stressors. Studies have shown that the improvement of these factors can promote healthy behaviors, mood states, and job satisfaction. Implementing adjustable workstations (AWS) allow workers to sit or stand, with studies demonstrating notable reductions in sitting times, improvements in comfort, energy, happiness, and focus. This study documents workplace behavior, physical and mental wellbeing of workers, after the introduction of an AWS, compared to those with a traditional desk (TD) in an office environment.

This presentation describes a RCT of adjustable workstations (AWS). Subjects with AWS and traditional desks (TD) were surveyed electronically with two validated health and work questionnaires, before AWS installation, three and six months later. They reported current activity via polling for one week, at each time point. Nonparametric Wilcoxon tests were performed. Spearman's rank correlation was used to analyze mental health variables.

Participants included 30 with AWS and 37 with TD, median age 30-39 years and 60% male. Participants who received AWS reported (through polling) significantly less sitting three months after (17% reduction in sitting; p=0.02) and six months after (15% reduction; p=0.006) AWS installation. Participants with AWS reported a reduction in upper back pain at both time points (p=0.008 and p=0.01, respectively), compared with participants with TD. After six months, 96% of participants who received AWS reported the new workstations were convenient to use; 63% reported increased productivity; and 61% indicated that the AWS positively impacted their health outside of the workplace. Among employees <30 years old, less sitting time was associated with improved coworker communication (r=.80; p=.104) and efficiency (r=0.740; p=.152). Participants with AWS also reported better concentration and, overall, would recommend AWS for their worksite.

This study demonstrates advantages of an AWS versus a traditional desk. Due to the fact that physical activity and work environment have been shown to improve mood states and physiological health, an exploration of how AWS usage can affect sustained workplace environment satisfaction is a topic for further exploration.

Biography

Elizabeth Garland graduated from Albany Medical College of Union University as Medical Doctor, and a Masters Degree in Public Health and Nutrition from Columbia University. She trained at Icahn School of Medicine in New York City in both Pediatrics and General Preventive Medicine. She is currently an Associate Professor in the Departments of Preventive Medicine and Pediatrics. She is the Director of the Division of General Preventive Medicine and Community Health and also the Director of the General Preventive Medicine Residency. She is the Health Promotion Disease Prevention Track Leader in the Mount Sinai Graduate Program in Public Health.

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MOLECULAR HIGH-RESOLUTION MONITORING OF LISTERIA MONOCYTOGENES ON FOOD PRODUCTS AND FOOD-ASSOCIATED ENVIRONMENTS

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We present the latest insights concerning molecular methods for qualitative and quantitative foodborne pathogen detection and characterization, with a focus on Listeria monocytogenes, a facultative intracellular human pathogen. The high mortality rate of listeriosis (around 20%) and the persistence of Listeria monocytogenes in food-associated environments makes its elimination or reduction a compulsory step before marketing potentially contaminated products. Besides methods based on cultural, immunological, or biochemical identification and enumeration of Listeria monocytogenes, a number of molecular methods with strain-level resolution have been developed in recent years for epidemiological investigations. These methods mainly include real-time quantitative PCR (qPCR), pulsed-field gel electrophoresis (PFGE), multi-locus variable number tandem repeat analysis (MLVA), multi-locus sequence typing (MLST), multilocus genotyping (MLGT) and whole genome sequencing (WGS). Subtyping of L. monocytogenes strains can prove to be crucial to point source outbreaks in food processing plants. The emergence of WGS as a routine method should assist in the development of prospective epidemiological surveillance programs for L. monocytogenes and other pathogens relevant to public health.

Biography

Olivier Jousson has completed his PhD at the age of 28 years from the University of Geneva (Switzerland) and postdoctoral studies from University Hospital Lausanne. He is Associate Professor and PI of the Microbial Genomics Laboratory at CIBIO. He is director of teaching of undergraduate biotechnology programs at the University of Trento. He has published more than 60 papers in international, peer-reviewed journals. He is interested in the study of bacterial pathogens, including genome-wide identification and functional characterization of virulence factors, development of molecular typing systems, and population biology and epidemiology. He has been serving as a reviewer or invited editor for a number of reputed journals in the field.

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MEASUREMENTS OF OCTANOL–AIR PARTITION COEFFICIENTS, VAPOR PRESSURES AND VAPORIZATION ENTHALPIES OF THE (E) AND (Z) ISOMERS OF THE 2-ETHYLHEXYL 4-METHOXYCINNAMATE AS PARAMETERS OF ENVIRONMENTAL IMPACT ASSESSMENT

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The 2-Ethylhexyl 4-methoxycinnamate, EHMC, is one of the UVB blocking agents more widely used in a variety of industrial fields given an enormous annual consumption. Problems that arise due to the accumulation of this compound in nature should be taken into consideration. The exposition of EHMC to the UV radiation produces isomerization in the double bond, consequently two photoisomers can exist, as (Z) or (E).

In order to explain their atmospheric fate, it is required quantitative information regarding about their partition into atmospheric particles, aerosols and water droplets, as well as their volatility. As is well known, the PL and KOA are useful descriptors of chemical mobility in the atmospheric environment. All these parameters are strongly influenced by temperature.

The GC-RT technique was used in this work with the aim of determining the vapor pressure, enthalpies of vaporization and octanol–air partition coefficient, for the BBP, DOP, E- and Z-EHMC esters. The results have showed that Z-EHMC is almost five times more volatile than E-EHMC.

Moreover, BBP, Z-EHMC and E-EHMC can be classified as substances with a relatively low mobility since they lie within the range of $8 < \log KOA < 10$ and $-4 < \log(P\ L/Pa) < -2$, while DOP lies in the range of $\log KOA > 10$ and $\log(P\ L/Pa) < -4$, therefore, a low mobility can be expected. From these parameters, their particle-bound fraction and gas–particle partition coefficient were also derived.

Biography

Malisa S. Chiappero has completed her PhD at the age of 28 years from Universidad Nacional de Córdoba (Argentina) and postdoctoral studies from Ford Motor Laboratories under direction of the Gustavo A. Argüello and Timothy Wallington, respectively. She is director of the LANIN Laboratories (UNMdP). She is founding member of the Argentina Society for Science and Environmental Technology, SACyTA. She has published more than 20 papers in reputed journals.

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THE PREVALENCE OF HYPERTENSION AMONG KAZAK INDIVIDUALS OF DIVERSE OCCUPATIONAL BACKGROUNDS IN XINJIANG, CHINA

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Background The prevalence of hypertension varies greatly among various ethnic groups in China. Kazak's hypertension ranks fifth with regard to morbidity among the 56 Chinese ethnic groups. Kazaks, are the main ethnic group in Kazakhstan, and represent a sizable ethnic minority in China and Russia. For thousands of years, China's Kazak people are mainly active in raising livestock on the prairie grasslands in northwest China, and have developed a unique culture and lifestyle. In order to establish whether this distinct life-style and culture affects the prevalence of hypertension in this population, we undertook a population-based study of Kazak people who are involved in three occupational backgrounds (herdsman, farmer, non-manual worker of town city) in north Xinjiang China.

Methods A prospective cohort design was used, with 1670 participants (aged 30-92) from seven villages and town city recruited by a stratified random clustering sampling procedure in Hong Dun town, Altay region Xinjiang from January to March 2013. All participants completed the survey and physical examination using standardized procedures. The overall response rate for completing both the survey and physical examination was 92.0%.

Results Compared with farmers and non-manual workers, herdsmen had the highest prevalence of hypertension and the lower rates of treatment and control (Table 1). High-salt diet (air-dried beef and milky-tea) intake and low intake of fruits and vegetables were more common in the nomadic group and a dose-response relationship was observed between the prevalence of hypertension and occupation (Figure 1). Furthermore, the prevalence of hypertension within each occupational group was more common in lower socioeconomic status based on educational attainment and economic measures (data not shown).

Conclusion Unlike the previous epidemic of hypertension in developed countries which was driven mainly by urbanization, these data highlight the need for careful monitoring and control of hypertension risk factors in rural area residents, especially groups such as the Kazak nomads who have a greater degree of marginalization in modern China.

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MONITORING AND MODELING OF THE OCCUPATIONAL HEALTH AND SAFETY MEASURES IN TWO ENVIRONMENTAL RESEARCH LABORATORIES

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In laboratory studies, a proper risk management must be done for the realisable risks, therefore, occupational health and safety precautions must be implemented for the health of the laboratory personnel and for the reliability of the analysis results. It is possible to describe the most common risks encountered in laboratory studies and it can be determined the precautions through the methods used in risk analysis. The novelty of the study is to take advantage of the mathematical modelings for the first time in Turkey in environmental research laboratories choosing the most efficient, economic and quick precautions against to the probable risks, working accidents and financial harms. The main aim of this study was to monitor the possible risks and to determine the precautions in order to make occupational health and safety assessment studies in a chemical and in a microbiology laboratory in Environmental Engineering Department – Dokuz Eylul University in Izmir/Turkey using two different risk assesment methods namely Analytic Hierarchy Process – (AHP) and Kinney Method for occupational health and safety assessment studies based on chemical, physical and biological factors. The significance levels of the safety measures that must be taken in laboratories could be determined as percentages with AHP. Degree of urgency of the safety measures that must be taken in laboratories according to the quantity of the risk value were detected with Kinney Method. As a result of this study, probable risks, working accidents and financial harms in these laboratories could be minimized with occupational health and safety precautions using mathematical modelings.

Biography

Gokce Guney has been graduated from Engineering Faculty of Dokuz Eylul University, Turkey as an Environmental Engineer. Then she started working at Environmental Engineering Department of Dokuz Eylul University, Turkey as a research assistant. Later on she obtained her post-graduation in master of science from The Graduate School of Natural and Applied Sciences of Dokuz Eylul University, Turkey from Environmental Engineering Department. Now, she has continued her master of science in Occupational Health and Safety Department and doctor of philosophy in Environmental Engineering Department both at The Graduate School of Natural and Applied Sciences of Dokuz Eylul University, Izmir, Turkey.

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TOXICOLOGICAL AND BIOCHEMICAL MIXTURE EFFECTS OF AN HERBICIDE AND A METAL ON MARINE PRIMARY PRODUCERS AND PRIMARY CONSUMERS

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Mixture effects of chemicals and their potential synergistic interactions are of great concern to both the public and regulatory authorities worldwide. Intensive agriculture activities are leading to discharges of chemicals mixtures (pesticides and metals) to the located nearby aquatic areas with severe repercussions to aquatic communities and thus, to the trophic food web. Further information about the impacts of these stressors in aquatic organisms is needed. By this, our study address toxic and biochemical effects of single and equitoxic mixtures of the herbicide Primextra® Gold TZ and the metal copper in the marine diatom Thalassiosira weissflogii and in the estuarine calanoid Acartia tonsa by determining growth rate and immobilisation effects, respectively, and changes on fatty acids (FA) profiles, being the latter a good biomarker of stress. Single effects revealed that the herbicide is considerably more toxic to diatoms than to copepods, whereas the metal showed an opposite trend. Mixture effects revealed that copper and Primextra® acted antagonistically relative to concentration addition model on diatoms and synergistically relative to independent action model on copepods. FA profiles of diatom responded significantly to the single copper exposure. Significant decline in the content of copepod FAs was observed after mixture exposure, including considerable decrease of essential FAs that cannot be synthesized de novo. Our results revealed that the mixture effects are more hazardous for primary consumer than for primary producer species in terms of abundance and biomass quality, suggesting the harmful effects for higher trophic levels, biodiversity losses and decrease in ecosystem health status.

Biography

Valentina Filimonova is currently a 29 years old PhD researcher at the final year of the Doctoral Programme on Marine Ecosystem Health and Conservation (MARES, mares-eu.org) from University of Aveiro, Portugal, and Ghent University, Belgium. She published 2 papers in indexed SCI journals.

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Notes:

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IN VITRO ASSESSMENT OF ARSENIC AND GUT MICROBIOME INTERPLAY

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Microbe-host cross-talk is a key factor in human health and while the gut barrier controls (micro-) nutrient absorption, it also fends off antigens or xenobiotics. One of the contaminants of highest health concern is arsenic, which affects more than 100 million people worldwide, causing cancer, cardiovascular and metabolic diseases. Human exposure to inorganic and organic arsenic is largely caused by the ingestion of contaminated drinking water and foodstuffs, mainly rice and seafood. Although most of the arsenic is absorbed in the small intestine, significant amounts could reach distal segments of the gut. Specifically, at the colon, a mucus layer is covering the epithelial surface, protecting the colonocytes from the luminal milieu. This specific niche, due to its close contact with epithelial cells, is gaining more attention in host-microbe interaction studies. From our results, gut microbiome was affected by arsenic in the simulator of the human intestinal microbial ecosystem (SHIME®). 7 human fecal samples were stabilized in the SHIME reactor and exposed to environmentally relevant levels of arsenic (0.01 or 0.1 mg/L) for 7 days. Gut microbiome and specifically mucus associated microbiota reduced its metabolic activity, represented by a decrease in short chain fatty acids and ammonium production (48-89% of reduction compared to the control). In addition, the microbial structure in the mucus niche was specifically affected, increasing the richness and reducing the evenness in the community. These results support the hypothesis of considering the mucus ecosystem in the gut as sensitive "target organ" of arsenic toxicity.

Biography

Marta Calatayud has a Veterinary degree and obtained her Ph.D. from Valencia University and the Institute of Agrochemistry and Food Technology - Spanish National Research Council. After being an assistant professor of Toxicology at the Technical University of Ambato (Ecuador), she started a doctor assistant position at the Center for Microbial Ecology and Technology, Ghent University (Belgium) where she is currently performing her research. Her primary interest is the understanding of environmental pollutants behavior at intestinal level, including the host-associated microbiome. Recently, she has been granted by the FWO to develop an in vitro biomimetic model of the intestine.

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Notes:

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ENHANCEMENT OF OXYGEN FUNCTIONAL GROUPS ON OLIVE STONES ACTIVATED CARBON SURFACE TO IMPROVE HEAVY METAL REMOVAL FROM SINGLE AND BINARY AQUEOUS SYSTEMS

[a]Thouraya Bohli and [a]Abdelmottaleb Ouederni
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Heavy metals are common pollutant found in various industrial effluents. The stricter environmental regulations on the discharge of heavy metals make it necessary to develop various technologies for their removal. Adsorption on activated carbon was considered to be the more effective process especially at low concentrations. The surface characteristics and chemical properties of activated carbon are the most important factors that determine the adsorption capacity. These two factors can be changed through certain surface oxidizing methods of activated carbon. In this work, an activated carbon prepared from olive stones by chemical way using phosphoric acid (COSAC) was further undergoes treatments with nitric acid, ozone, CuO impregnation and Al2O3 impregnation to improve the surface chemistry. Activated carbons were characterized by BET, FTIR and Boehm titration. Treated ACs show a decrease in both specific surface area and micro pore volume, and lead to a fixation of high amounts of oxygen functional groups, especially when nitric acid and ozone were used, thus making the carbon surfaces more hydrophilic. Prepared ACs were used as an adsorbent matrix for Co(II), Ni(II) and Cu(II) metal ions removal from aqueous solution. Adsorption isotherms obtained at 30°C show that the modified ACs are able to sorb more Co(II), Cu(II) and Ni(II) from aqueous solution. Nitric acid treated AC was found to be the most favourable one since higher heavy metal ions uptake are observed when using this material. COSAC and nitric acid-treated olive stones activated carbon were tested and compared in their ability to remove Metal ions from binary systems and results show synergies, inhibitor and enhancement effects and higher adsorbed amounts as compared to single systems.

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Notes:

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Scientific Tracks & Abstracts

Day 2

Track 11, 12, 13, 14 & 15

Day 2 October 25, 2016

Environmental Health & Biomedical Waste | Toxicology | Pathogens | Diseases Transmission | Non Communicable Diseases

Session Chair
Cassandra Warner Frieson
Fall Injury Preventionn and Rehabilitation Center | USA

Session Introduction

Title: **Analysis of some chemical elements in marine microalgae for biodiesel production and other uses**
Bruna Ferreira Silva | Federal University of Goiás | Brazil

Title: **Molecular Pathogenesis in Chronic Obstructive Pulmonary Disease Due to Biomass Smoke Exposure**
Jordi Olloquequi | Universidad Autónoma de Chile | Chile

Title: **High temperature and risk of hospitalizations, and effect modifying potential of socio-economic conditions: a multi-province study in the tropical Mekong delta region**
Dung Phung | Griffith University | Australia

Title: **Antioxidant and Antihypertensive Natural Peptides in Dry-Cured Ham By-Products**
Leticia Mora-Soler | Instituto de Agroquímica y Tecnología de Alimentos (CSIC) | Spain

Title **Effect of the meteorological conditions on dairy sheep performance**
Maria Sitzia | AGRIS Sardegna | Italy

Title: **The use of HIV positive health care volunteers to provide information about HIV/AIDS in low socio-economic environments**
Firoza Haffejee | Durban University of Technology | South Africa

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ANALYSIS OF SOME CHEMICAL ELEMENTS IN MARINE MICROALGAE FOR BIODIESEL PRODUCTION AND OTHER USES

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Due to the current abundant supply of marine microalgae, which can be found in seawater, as well as microalgae's ability to uptake different chemicals, it appears as a promising raw material with potential for many commercial uses. Despite having a high amount of metal in their biomass, the lipids within marine microalgae can be converted into biodiesel. Analyses of 26 chemical elements (Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sn, Sr, Ti, Tl, V, and Zn) were performed by ICP-OES with the goal of quantifying the inorganic content of marine microalgae's biomass. Regardless of the cultivation media used, microalgae presented differences in their chemical element profile. Strains showed a 12.9% to 36.3% mass of analyzed elements per dry biomass, which represent a relatively high percentage for a feedstock used in biofuels. Among the 36 assayed microalgae, Biddulphia sp., Planktolyngbya limnetica, Amphora sp. (1), Navicula sp. (3) and Synechococcus sp. are most indicated for this purpose as they contain a lower concentration of chemical elements when compared to other samples. However, their profile warns that water quality control is needed for toxic metals such as Ba, Cd, and Pb.

Biography

Bruna Ferreira Silva has begun her research studies with biofuels in graduation. She has published some papers in reputed journals and has completed her Master course at the age of 23 years in Chemistry Institute at Federal University of Goiás. She has experience in analytical chemistry, especially in microalgae, ICP, metals, biodiesel and gas chromatography.

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Notes:

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MOLECULAR PATHOGENESIS IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE DUE TO BIOMASS SMOKE EXPOSURE

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In Chronic Obstructive Pulmonary Disease (COPD), inhaled particles and gases trigger an inflammatory response, favoring tissue proliferation in small airways and tissue destruction in lung parenchyma, in addition to the recruitment of immune cells to these compartments. COPD mortality and morbidity have increased significantly worldwide in recent decades. Although cigarette smoke is still considered the main risk factor for the development of the disease, estimates suggest that between 25% and 33% of COPD patients are non-smokers. Among the factors that may increase the risk of developing COPD, biomass smoke (BS) has been proposed as one of the most important, affecting especially women and children in developing countries. Despite the epidemiological evidence linking exposure to BS with adverse health effects, the specific cellular and molecular mechanisms by which this pollutant can be harmful for the respiratory and cardiovascular systems remain unclear. However, a considerable amount of evidence has shown the potential of BS as an enhancer of lung inflammation. On the other hand, an impairment of some innate immune responses after BS exposure has also been described. Regarding the mechanisms by which biomass smoke alters the innate immune responses, three main classes of cell surface receptors, the toll-like receptors, the scavenger receptors and the transient receptor potential channels have shown the ability of transducing signals initiated after BS exposure. This paper is a comprehensive review of the immunomodulatory effects described after the interaction of BS components with pulmonary cell receptors, under a COPD-oriented point of view.

Biography

Jordi Olloquequi completed his PhD in 2010 from the Department of Cell Biology of the University of Barcelona in collaboration with the Vall d'Hebron Hospital Research Institute (VHIR). After a postdoctoral research in that very group, he became Associate Professor at the University of Barcelona, Spain. At present, Dr. Olloquequi is a full professor at Universidad Autónoma de Chile. He is the Principal Investigator of a research project funded by the Chilean National Science and Technology Fund (CONICYT). His main research line aims to study the connection between inflammatory processes and disease, specially those in the respiratory and nervous systems.

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HIGH TEMPERATURE AND RISK OF HOSPITALIZATIONS AND EFFECT MODIFYING POTENTIAL OF SOCIO-ECONOMIC CONDITIONS: A MULTI-PROVINCE STUDY IN THE TROPICAL MEKONG DELTA REGION

Dung Phung[a], **Yuming Guo**[b], **Huong TL Nguyen**[c], **Shannon Rutherford**[a], **Scott Baum**[a] and **Cordia Chu**[a]
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The Mekong Delta Region (MDR) in Vietnam is highly vulnerable to extreme weather related to climate change. However there have been hardly any studies on temperature-hospitalization relationships. The objectives of this study were to examine temperature-hospitalization relationship and to evaluate the effects of socio-economic factors on the risk of hospitalizations due to high temperature in the MDR. The Generalized Linear and Distributed Lag Models were used to examine hospitalizations for extreme temperature for each of the 13 provinces in the MDR. A random-effects meta-analysis was used to estimate the pooled risk for all causes, and for infectious, cardiovascular, and respiratory diseases sorted by sex and age groups. Random-effects meta-regression was used to evaluate the effect of socio-economic factors on the temperature-hospitalization association. For 1°C increase in average temperature, the risk of hospital admissions increased by 1.3% (95%CI, 0.9-1.8) for all causes, 2.2% (95%CI, 1.4-3.1) for infectious diseases, and 1.1% (95%CI, 0.5-1.7) for respiratory diseases. However the result was inconsistent for cardiovascular diseases. Meta-regression showed population density, poverty rate, and illiteracy rate increased the risk of hospitalization due to high temperature, while higher household income, houses using safe water, and houses using hygienic toilets reduced this risk. In the MDR, high temperatures have a significant impact on hospitalizations for infectious and respiratory diseases. Our findings have important implications for better understanding the future impacts of climate change on residents of the MDR. Adaptation programs that consider the risk and protective factors should be developed to protect residents from extreme temperature conditions.

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ANTIOXIDANT AND ANTIHYPERTENSIVE NATURAL PEPTIDES IN DRY-CURED HAM BY-PRODUCTS

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Meat industry produces tons of by-products that represent both an economical and environmental problem. Dry-cured ham manufactories are also important producers of by-products including all residues derived from the slicering of ham such as rinds, bones, fat, etc. On the other hand, proteolysis is one of the most important biochemical reactions occurred during dry-cured ham processing. It is responsible for the main changes in texture as well as for the generation of thousands of small peptides which influence in the characteristic aroma and flavor of the final product. Some of the sequences of these naturally generated peptides in dry-cured ham has also been described to exert biological activities such as antioxidant or antihypertensive. Hypertension is one of the major risk factors for the development of cardiovascular diseases, stroke, and end-stage renal disease, and it has been the focus of attention in clinical and medicine research for the last decade. Main concerns in this matter are the secondary effects of antihypertensive drugs and, for this reason, current studies are based on new findings of naturally generated antihypertensive peptides which results less aggressive. Peptides naturally generated and extracted using different solvents from dry-cured ham by-products were evaluated for their antioxidant activity using DPPH, ferric reducing-power, ORAC, beta-carotene, and ABTS methodologies. Their potential as antihypertensive peptides was also studied with the measurement of inhibition of Angiotensin-Converting Enzyme (ACE) and Endothelin-Converting Enzyme (ECE). The results suggest that dry-cured ham by-products constitute a good source of bioactive peptides with potential health benefits.

Biography

Leticia Mora completed her PhD at the Universidad Politécnica of Valencia in 2010. As a posdoctoral researcher, Mora enjoyed a posdoctoral contract in Ashtown Food Research Centre, Teagasc, in Dublin (Ireland) and later, a posdoctoral Marie Curie Intra-European Fellowship FP7-PEOPLE-IEF, FOODSAF project in Royal Holloway University of London (Egham, UK). Currently, Mora is reintegrated at the Instituto de Agroquímica y Tecnología de Alimentos, CSIC, with a posdoctoral contract. She is involved in the FP7-PEOPLE BACCHUS project and is the fellow of the Marie Curie FP7-PEOPLE-CIG HIGHVALFOOD project. She has published more than 40 papers in peer-reviewed journals.

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EFFECT OF THE METEOROLOGICAL CONDITIONS ON DAIRY SHEEP PERFORMANCE

Maria Sitzia[a], **Marco Acciaro**[a], **Mauro Decandia**[a], **Gianpaolo Epifani**[a], **Gianmarco Marrosu**[a], **Ilaria Peana**[b] and **Carla Manca**[a]
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Thermal stress negatively affects profitability of sheep production due to the decrease in animal health and to the reduction in weight gain and milk production. The aim of this study was to investigate the variation in animal performance and adaptability in response to annual weather fluctuation. A 16 autochthonous Sardinian dairy sheep were raised in a Stall feeding system (St) and their performance was compared with 16 animals raised outdoor in a Paddock feeding system (Pd), without any shelter or shading effect. Both groups were fed with the same amount of forage and concentrate. The trial was carried out in N-W Sardinia, between July 2011 and May 2013. In both years, for each season, a 4 week measurement period was assessed. Outdoor and indoor meteorological factors were monitored continuously and analyzed weekly on hourly base; bio meteorological indices were calculated. Feed on offer and that refused, water consumption were measured daily in all groups. Body condition score, body weight, milk yield and milk composition and cortisol blood level were measured weekly. Treatments were characterized by different climate conditions. St, with more comfortable environmental conditions, showed higher milk yield and lower milk fat content than Pd only in winter, as well as body weight in winter and spring. Any difference was detected for the cortisol blood content. In comparison with the first, the second year, characterized by a more favorable weather, allowed better animal performances and an increment of cortisol level. Strategies aimed at reducing thermal stress of animal during winter would lead to improvement feed conversion efficiency for milk production.

Biography

Maria Sitzia is a researcher in animal husbandry at Research Agency in Agriculture of Sardinia (AGRIS). She has carried out research on eco-physiology of forage species, on method of estimating biomass, the evolution of the vegetal structure of grazed sward, the techniques involved in managing different types of pasture. She has more than 20 years of research experience in small ruminant farming system, forage production, livestock management, animal production and sustainability of grazing systems. She is working on low-input farming systems for dairy and meat productions and is co-author of 25 scientific articles in peer-reviewed journals and 84 posters and/or oral communications.

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THE USE OF HIV POSITIVE HEALTH CARE VOLUNTEERS TO PROVIDE INFORMATION ABOUT HIV/AIDS IN LOW SOCIO-ECONOMIC ENVIRONMENTS

Firoza Haffejee[a], **Muhamed Waseem Khan**[a], **Katie A Ports**[b] and **Maghboeba Mosavel**[b]
[a]Durban University of Technology, South Africa
[b]Virginia Commonwealth University, USA

The prevalence of HIV is high among South African women. We previously established that women in a low income community in South Africa had general HIV/AIDS knowledge but were unable to identify essential prevention behaviours. It was also established that health care volunteers provided support within the community.

As part of a larger study, a qualitative interview was conducted with an HIV positive health care volunteer who offers social support in the area. This volunteer has no formal training but after being diagnosed with HIV 18 years ago, she attended short courses and sat in on nursing lectures in order to educate herself about HIV.

She now uses her knowledge to help people with HIV live a better life and has received recognition through educating others via motivational speaking. She is regarded as someone people can confide in, and get assistance from, in her words a "community counsellor". She also visits schools to create awareness about HIV. Her work indicates that listening to first-hand experience of a person who is HIV positive increases the level of engagement. Furthermore receiving information from someone who is not an authoritative figure is a different approach and a welcome change because of the stigma that still surrounds HIV.

We conclude that if more HIV positive people are trained to educate others, it will go a long way in increasing knowledge about HIV transmission, uptake of voluntary testing as well as the removal of the stigma that surrounds HIV.

Biography

Firoza Haffejee completed her PhD in 2013 at the University of KwaZulu-Natal. She is currently a senior lecturer in Physiology and Epidemiology at the Durban University of Technology in South Africa. She runs community engagement projects in Kenneth Gardens, a low socio-economic environment in the city of Durban, where she has also worked on research projects in collaboration with members from Virginia Commonwealth University. Her research is currently funded by the National Research Foundation (South Africa).

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Notes:

Session Chair
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Session Introduction

Title: **Environmental and economic sustainability in adverse conditions**
Carla Idely Palencia-Aguilar | Central Florida University | USA

Title: **Brominated flame retardants – occurence and health relevance**
Hermann Fromme | Bavarian Health and Food Safety Authority | Germany

Title: **Persistent organic chlorinated compound residues in the breast milk of female seasonal agricultural workers in turkey**
Kafiye Eroglu | Koç University School of Nursing | Istanbul | Turkey

Title: **Environmental burden of disease caused by air pollutants from municipal solid waste incinerators**
Young-Min Kim | Sungkyunkwan University School of Medicine | Korea

Title: **Prevalence of contact dermatitis among hairdressers and beauticians in Oran city (Algeria)**
Rabia Medjane | Faculty of medicine of Oran | Algeria

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ENVIRONMENTAL AND ECONOMIC SUSTAINABILITY IN ADVERSE CONDITIONS

Carla Idely Palencia-Aguilar[a]
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Very few examples of operating projects that integrate social, economic, environmental, technical and ecological aspects in developing economies, with multiple adverse conditions: climate change, political issues, low income, skepticism, wrong conceived governmental regulations for mining operations, and so on, could be found. This work includes determination of optimal land use by multi-criteria analysis with three main variables: geostatistics, evapotranspiration and groundwater characteristics. It also uses indicators such as NDVI to proof how the mining interventions had improved the characteristics of the zone, how risk assessment and risk management are key components for environmental sustainability and how innovative techniques in dehydration could add value to agriculture, silviculture and cattle raising products from rehabilitated zones to assure economic sustainability. The use of remote sensing, meteorological stations, piezometers, sunphotometers, geoelectric analysis among others; provide the information for modelling the actual situation and predict future needs. Temporality aspects from MODIS and ASTER images are also included not only for agriculture applications but also for water resource management and water quality assurance. Organic Agriculture applications have been tested with different products such as Goldenberry and Quinoa, both with international demand. Zeodratation is used to dehydrate the products by means of pressure changes and zeolites that behave as adsorbant and as molecular sieve selectors of water versus nutrient content. Thousands of experiments in the past 8 years have been taking place in order to define the best quality and most efficient curve per tested product. The results show healthier products with concentrated vitamin and antioxidant contents.

Biography

Carla Idely Palencia-Aguilar is an Industrial Engineer from Javeriana University in Colombia with Masters degrees in: Manufacturing Engineering at Worcester Polytechnic Institute, MBA at Clark University, Master in Finance at Boston College in the USA, Master in Environmental Engineering at Ecole des Mines d'Ales in France; with specializations in Management at Harvard Ext University in the USA, Environmental Architecture at Lund University in Sweden, Limnology, Water Quality and Bioindicators from the Austrian Academy of Science, and Groundwater modeling from ITC, the Netherlands. She was also Professor at Los Andes University and Jorge Tadeo Lozano University in Colombia, as well as Consultant for various companies and Speaker in Conferences and Exhibitions around the world.

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BROMINATED FLAME RETARDANTS – OCCURENCE AND HEALTH RELEVANCE

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Brominated flame retardants (BFRs) are a large group of different substances used in numerous products to prevent fire hazards. Some of them are persistent in the environment, accumulate in the food chain and are of toxicological concern, while for others current data are limited. Meanwhile, BFRs have been found in many environmental media, foods, and biota including humans.

We will present recent findings obtained from monitoring data in different environmental media like indoor air and dust as well as dietary exposure. Furthermore, we give an overview of human biomonitoring data on BFR levels in blood and breast milk. Current estimates of the overall exposure of the general population using different relevant subsets are also addressed. All of these data are discussed in relation to currently available toxicological reference values used for risk assessment purposes.

Obviously, the exposure of the general population varies considerably in different parts of the world and even within countries. Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) show very often the highest exposure levels. Nevertheless, other "emerging" BFRs like tetrabromobisphenol A (TBBPA) and bis(2-ethyl-1-hexyl) tetrabromophthalate (TBPH) have to be considered in future. For most of the substances dietary intake was the major source. Additionally, non-dietary human exposure via inhalation and oral ingestion of house dust can make a significant contribution to the total intake under some circumstances, particularly for toddlers.

Biography

Hermann Fromme has completed his MD at the Ludwig-Maximilians-University, Munich, Germany. He is the head of the Department of Chemical Safety and Toxicology of the Bavarian Health and Food Safety Authority and associate professor at the Ludwig-Maximilians-University, Munich. Central topics of the department are the identification of chemical exposures in environmental media and humans. He published numerous papers, especially in the field of indoor air and dust analysis and human biomonitoring.

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PERSISTENT ORGANIC CHLORINATED COMPOUND RESIDUES IN THE BREAST MILK OF FEMALE SEASONAL AGRICULTURAL WORKERS IN TURKEY

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[c]Cumhuriyet University Health Science Faculty, Turkey
[d]Harran University Faculty of Medicine, Turkey
[e]Harran Üniversitesi School of Health Science, Turkey

Although organochlorine compounds (OCCs) used in industry and agriculture are not produced and not used legally at the present time, they may cause undesirable effects by passing to humans through various routes due to their long- term persistence in the external environment and transmission to babies through breastfeeding. Retrospective descriptive study aimed to investigate organochlorine compounds in women who breastfeed and work as a seasonal agricultural worker (SAW). Retrospective descriptive this study aimed to investigate OCCs in women who breastfeed and work as a SAW. The study is sponsored by Scientific and Technological Research Council of Turkey (TUBITAK) with 114S163 number. It was carried out on 100 women worked as SAW for the last one year. Data were collected a questionnaire by face-to-face interview and analyzed the residues of 27 items of organochlorine pesticides (OCPs), Dichlorodiphenyltrichloroethane (DDT) metabolits and polychlorinated biphenyls, (PCBs) from persistent organic pollutants (POPs) in mothers'50 mL breast milk. Descriptive statistics, Chi square test and correlation analyze were used to evaluate data. Polychlorinated biphenyl (PCB)28 component was determined in almost all women's milk and more than half of collected milk contained Beta-Hexachlorocyclohexane (HCH), PCB52, pp'-Dichlorodiphenyldichloroethylene (DDE), Hexachlorobenzene (HCB), PCB70, pp'-Dichlorodiphenyltrichloroethane (DDT) ve Gamma HCH respectively. Moreover, PCB101, PCB183, PCB118, PCB105, PCB208, PCB170 ve Alfa-HCH components were detected in very few women (2-9 %). It was recommended that necessary legal regulations, education and control studies on health, and follow-up studies investigating health status of mothers and their babies.

Biography

Eroğlu is a professor of Obstetric and Gyncolojical Nursing in School of Nursing. She is interested in women health, reproductive and sexual health, gender (in particular, sexuality, sexual education, fertility, family planning metods, climacteric, pregnancy, breastfeeding, reproductive health of agricultural workers). She has published more than 20 international, 50 national papers in reputed journals and has been serving as an editorial board member of repute. Presently he has been working at the at the Koç University School of Nursing.

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ENVIRONMENTAL BURDEN OF DISEASE CAUSED BY AIR POLLUTANTS FROM MUNICIPAL SOLID WASTE INCINERATORS

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Although people living in the vicinity of incinerators have wondered whether incinerators cause any health burden, few studies have attempted to quantify the integrated health burden on the population. To estimate the attributable burden of disease caused by incinerators in Seoul, Korea, a source-specific exposure was applied to the estimation of the environmental burden of disease (EBD). With particular attention on the development of a measurement means of the source-specific, exposure-based population attributable fraction (PAF), we integrated air dispersion modeling, Geographic Information Systems (GIS), the population distribution of exposure, and the exposure-response relationship. Attributable burden of disease of four air pollutants (PM10, NO2, SO2, and CO) emitted from four municipal solid waste incinerators (MSWIs) in Seoul was estimated using the estimated PAF and the disability-adjusted life years (DALY) method. The PAF for NO2 to all-cause mortality was assessed at approximately 0.020% (95% CI: 0.003–0.036%), which was the highest among all air pollutants. The sum of the attributable burden of disease for four pollutants was about 297 person-years (95% CI: 121–472) when the incinerators observed to the emission standards. The attributable burdens of respiratory disease and cardiovascular disease were about 0.2% and 0.1%, respectively, of the total burden of respiratory and cardiovascular diseases of Seoul citizens for the year 2007. Although the air emissions from one risk factor, an incinerator, are small, the EBD can be significant to the public health when population exposure is considered.

Biography

Young-Min Kim has completed her PhD from Seoul National University and postdoctoral studies from Sungkyunkwan University School of Medicine and Emory University Rollens School of Public Health. She is a research professor of Sungkyunkwan University School of Medicine and works for Environmental Health Center for Atopic Diseases, Samsung Medical Center as a senior researcher. She is also joining the Task Force Team for the Response of Climate Change, Korea Center for Disease Control and Prevention as an advisory committee. She has published more than 15 papers in reputed journals.

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PREVALENCE OF CONTACT DERMATITIS AMONG HAIRDRESSERS AND BEAUTICIANS IN ORAN CITY (ALGERIA)

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This study evaluates the prevalence of contact dermatitis in the hairdressing and esthetics sectors, and describes the clinical aspects encountered. This is a descriptive transversal clinical epidemiological study. The tested population was recruited on accessibility and volunteerism. It covers hairdressers and/or beauticians at the city of Oran, which are visited in their rooms and invited to answer a standardized medical questionnaire, followed by a clinical skin examination. Patch tests of the standard battery are made by this stuff having an allergic contact dermatitis appeared for less than a year, post studies in training and an esthetics center complete the study. The tested population consists of 175 women: 120 hairdressers, 28 beauticians and 27 beauticians and hairdressers. Dermatoses were recorded in 51 subjects, 40 cases by clinical examination and 11 cases only by anamnesis. Skin diseases can be divided into: dermatitis irritation: 31 cases, allergic contact dermatitis: 8 cases, dermatitis traumatic 11 cases and nail involvement found in only 1 hairdresser, 39 of contact dermatitis are found, 27 cases by clinical examination and 12 cases by anamnesis. Gloves representing the essential means of individual protection in this staff, where the gloves' wearing is found in 82% of subjects. 117 subjects (67%) use latex gloves. Only 4% of the subjects have vinyl gloves. Of the 8 cases meeting the criteria of allergic contact dermatitis only 3 subjects responded to the call for patch testing. Positivity to Nickel sulfate, to formaldehyde and paraphenilene diamine (PPD) is found.

Biography

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